



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,483	03/22/2005	Faissal Abdel-Hady	2A09.1-111	8463

23506 7590 09/05/2006

GARDNER GROFF SANTOS & GREENWALD, P.C.  
2018 POWERS FERRY ROAD  
SUITE 800  
ATLANTA, GA 30339

EXAMINER

LAM, THANH

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/528,483

Applicant(s)

ABDEL-HADY ET AL.

Examiner

Thanh Lam

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2006 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) \*
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 1,3-6,11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nichols et al. (US 6049148) in view of Shinozaki (US 2003/0080638).

Regarding claim 1, Nichols et al. disclose a magnetic elevation system comprising: a stator assembly having a permanent magnet assembly (38) secured thereto, the stator assembly being substantially cylindrical in shape; a support assembly

Art Unit: 2834

configured to support a metallic device (18) that is to be magnetically elevated, the permanent magnet assembly providing a magnetic force that is exerted on said metallic device in at least a first direction (radial forces of the metallic device); an electromagnetic coil assembly (42) capable of generating a magnetic force that is exerted on said metallic device in at least a second direction (rotation or torque of metallic device); and a feedback control system (54) configured to detect displacement (unbalance of the metallic device) of said metallic device in at least the first and second directions and to cause the magnetic force being generated by the electromagnetic coil assembly to be varied to correct displacement of said metallic device.

Shinozaki discloses used in conjunction with a proportional-integral- derivative (PID) controller (para. 0079) for controlling magnetic elevated device.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the controller of Nichols et al. and replace the PID controller as taught by Shinozaki in order to control the magnetic elevated device more accuracy.

Regarding claim 3, the proposal in combination of Nichols et al. and Shinozaki disclose the permanent magnet assembly generates a magnetic force that is exerted on the metallic device in a Z direction (radial force) and wherein the electromagnetic coil assembly generates a magnetic force that is exerted on the metallic device in X and Y directions, the X and Y directions (rotation force) being transverse to each other and transverse to the Z direction.

Regarding claim 4, the proposal in combination of Nichols et al. and Shinozuki disclose the feedback control system includes at least two inductive displacement sensors (48,50,52) that detect the displacement of the metallic device and generate respective output signals having values relating to amount and direction of displacement of the metallic device.

Regarding claim 5, the proposal in combination of Nichols et al. and Shinozuki disclose the electromagnetic coil assembly comprises two sets of electromagnetic coils, the two sets of electromagnetic coils having the stator assembly and said metallic device disposed between them.

Regarding claim 6, the proposal in combination of Nichols et al. and Shinozuki disclose each set of electromagnetic coils comprises four electromagnetic coils.

Regarding claim 11, the proposal in combination of Nichols et al. and Shinozuki disclose first and second flux plates (36) having the stator assembly, said metallic device, the support assembly and the electromagnetic coil assembly disposed between them.

Regarding claim 12, the proposal in combination of Nichols et al. and Shinozuki disclose comprising third and fourth flux plates having the first and second flux plates, the stator assembly, said metallic device, the support assembly and the electromagnetic coil assembly disposed between them.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 2,7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nichols et al. and Shinozaki as applied to claim 1 above, and further in view of Koltze et al.

Regarding claim 2, Nichols et al. and Shinozaki disclose all the aspect of the claimed invention except for the metallic device is used for the system is a ring-spinning system for making yarn.

Koltze et al. disclose the metallic device (39) is used for the system is a ring-spinning system for making yarn (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the metallic device of Nichols et al. and Shinozuki to accommodate the metallic device as taught by Koltze et al. in order to satisfy the choice of design.

Regarding claim 7, the proposal in combination of Nichols, Shinozuki and Koltze disclose a first non-magnetic annular disk disposed on said metallic device and a permanent magnet secured to the non-magnetic spacer.

Regarding claim 8, the proposal in combination of Nichols, Shinozuki and Koltze disclose a second non-magnetic annular disk disposed on the support assembly and a permanent magnetic secured to the second non-magnetic annular disk.

Regarding claim 9, the proposal in combination of Nichols, Shinozuki and Koltze disclose a non-magnetic spacer disposed on said metallic device.

Regarding claim 10, the proposal in combination of Nichols, Shinozuki and Koltze disclose a non-magnetic spacer disposed on the stator assembly adjacent the non-magnetic spacer disposed on said metallic device.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (571) 272-2026. The examiner can normally be reached on tu-th 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh Lam  
Primary Examiner  
Art Unit 2834